

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for bonding conductive structures comprising:

~~compressing~~ disposing a thin layer of metal between one end of a conductive post and a conducting structure; and

transforming substantially the entire thin layer of metal into an intermetallic bonding layer using heat and pressure, the transformed layer having a melting temperature higher than the initial melting temperature of the thin layer of metal; ~~and~~

~~bonding~~ such that the conductive post and the conducting structure are bonded together via the intermetallic bonding layer.

Claim 2 (original): The method of Claim 1 further comprising:

depositing a dielectric material around the conductive post.

Claim 3 (original): The method of Claim 1 wherein the thin layer of metal comprises a material selected from the group consisting of In, Sn/Pb eutectic solder, Sn, Bi and mixtures thereof.

Claim 4 (canceled).

Claim 5 (currently amended): A method for producing an assembly of substrates comprising:

disposing a thin layer of metal on a conducting structure coupled to a first substantially planar substrate;

dispensing a liquid polymeric material between the conducting structure and a second substantially planar substrate supporting a conductive post, the liquid polymeric material being disposed inwardly from the edges of the first and second substrate;

pressing the liquid polymeric material between the first and the second substrates so that the liquid polymeric material flows towards the edges of the first substrate and the second substrate; and

~~compressing the thin layer of metal between an end of the conductive post and the conducting structure;~~

transforming substantially the entire thin layer of metal into an intermetallic bonding layer using heat and pressure, the transformed layer having a melting temperature higher than the initial melting temperature of the thin layer of metal; ~~and~~

~~bonding such that~~ the conductive post and the conducting structure are bonded together via the intermetallic bonding layer.

Claim 6 (original): The method of Claim 5 additionally comprising curing the liquid polymeric material.

Claim 7 (original): The method of Claim 6 wherein said liquid polymeric material comprises a polymer fluxing agent.

Claim 8 (original): The method of Claim 5 wherein said liquid polymeric material comprises a polymer fluxing agent.

Claim 9 (original): The method of Claim 6 wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid.

Claim 10 (original): The method of Claim 8 wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid.

Claim 11 (original): The method of Claim 9 wherein said beta phenylacid is selected from the group consisting of beta phenylacetic acid, beta phenylacrylic acid, beta phenylcrotonic acid, and mixtures thereof.

Claim 12 (original): The method of Claim 10 wherein said beta phenylacid is selected from the group consisting of beta phenylacetic acid, beta phenylacrylic acid, beta phenylcrotonic acid, and mixtures thereof.

Claim 13 (original): The method of Claim 9 wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.

Claim 14 (original): The method of Claim 10 wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.

Claim 15 (original): The method of Claim 5 wherein said liquid polymeric material comprises from about 15% by weight to about 70% by weight of a polymeric resin, from about 15% by weight to about 70% by weight of a curing agent, and from about 0.10% by weight to about 20% by weight of a fluxing agent.

Claim 16 (withdrawn): A method for producing an assembly of substrates comprising:

- disposing a thin layer of metal on an end of a conductive post attached to a first substantially planar substrate;

- dispensing a liquid polymeric material between a conducting structure on a second substantially planar substrate and the first substantially planar substrate, the liquid polymeric material being disposed inwardly from the edges of the first and the second substrates;

- pressing the liquid polymeric material between the first and the second substrates so that the liquid polymeric material flows towards the edges of the first substrate and the second substrate.;

- compressing the thin layer of metal between the end of the conductive post and the conducting structure;

- transforming the thin layer of metal into a bonding layer having a melting temperature higher than the melting temperature of the thin layer of metal; and

- bonding the conductive post and the conducting structure together via the bonding layer.

Claim 17 (withdrawn): The method of Claim 16 additionally comprising curing the liquid polymeric material.

Claim 18 (withdrawn): The method of Claim 16 wherein said liquid polymeric material comprises a polymer fluxing agent.

Claim 19 (new): A method for producing an assembly of substrates comprising:

dispensing a liquid polymeric material on one of a first substantially planar substrate comprising a conducting structure and a second substantially planar substrate comprising a conductive post projecting from a surface thereof and having an end distal from said second substrate surface,

disposing a thin metal layer on one of said conducting structure or said distal end of said conductive post;

positioning and aligning said first and second substrates such that said distal end contacts said conducting structure with the thin metal layer therebetween; and

transforming substantially the entire thin layer of metal into an intermetallic bonding layer using heat and pressure, the bonding layer having a melting temperature higher than the initial melting temperature of the thin layer of metal, such that the conductive post and the conducting structure are bonded together.